

“ cissimi omnium mortalium Chineses noverunt, qui illa oryzæ miscent,
“ ut liquorem suum destillatitium (quem Arac nos hic vocamus) tanto
“ calidius reddant, pernicioso invento, quod hinc miseri nostri socii na-
“ vales, sanguinis sputum, Pthisin, Marasmm denique, et ipsam tan-
“ dem mortem incurrant.” This is rather hard upon the Argonauts, as
well as the Socii Navales. The worthy Bontius seems to have been particularly unlucky in his fishing for the cephalopoda. Speaking of the cuttle-fish, and its power of ejecting an inky fluid, he, with great naiveté says, “ Quod adeo in me ipso expertus sum : dum enim Sepiam curio-
“ sius contemplerer, effuso illo Pliniano atramento suo totam faciem mihi
“ infuscavit, non sine risu astantium.”

ART. XXVI. *Observations upon the Genus Scaphura, K, with Descriptions of two new Species. By J. O. WESTWOOD, F.L.S., &c.*

AMONGST the most interesting of the various and contradictory opinions of naturalists of the present day, with regard to questions connected with natural science, may be ranked those which relate to the existence or non-existence of isolated groups of objects, of higher or lower rank ; in other words, *First*, Whether every object in nature is not referable to some group or collection of objects of a similar structure, entirely separated and distinguished from all other groups ; or, *Secondly*, Whether such groups are not, although so insulated, connected with each other by means of intervening and generally smaller groups, which, although partaking of the characters of the groups between which they intervene evidently possess characters peculiarly their own, and sufficient to shew that they cannot be inserted in the groups they connect, and therefore are themselves insulated ;* or, *Lastly*, Whether the great chain of nature is

* With reference to this plan it may be remarked, that the admission of the existence of osculant genera tends to establish it as the plan of the creation.

not imperceptibly and gradually filled up, and her groups united by intervening objects, partaking in a greater or less degree (according to the nearness or remoteness of such intervening objects) of the characters of the thus connected groups, but with which intervening objects we may be, in many cases, unacquainted. Whether, in fine, nature (to adopt and enlarge the simile of Linnæus) may be said to leap from group to group, placed unconnectedly at distances from each other, or to walk step by step by means of groups placed connectedly, but at short distances from each other, or, lastly, to slide along from form to form by means of the gradual intervention of objects connected with and related to each other.

The remarks of Mr. Kirby upon this point are worthy of considerable notice. He evidently feels inclined to adopt a middle course, and says, with reference to the latter plan, "Were this really and strictly the case, " it seems to follow, that every group or individual species must on one " side borrow half its characters from the preceding group or species, " and on the other, impart half to the succeeding," adding, nevertheless, the question, "Whether every real species or group has not some " one or more peculiar characters, which it neither derives from its pre- " decessor, nor imparts to its successor in a series ?"*

The peculiarity of character alluded to must necessarily be variation in structure, and therefore if it be proved that precisely the same peculiarity of structure obtains in more than an individual species, it follows that neither of the above ideas suggested by Mr. Kirby as indications of an imperceptibly gradual course of nature, are consistent with nature, and therefore that a further proof is here adduced, that "varying, though not " violent intervals," do naturally exist in the plan of the creation, which cannot, consequently, be said to slide along in the manner above alluded to. Without, however, professing to offer any decided opinion upon this abstruse, yet interesting question, I cannot help remarking, that the little experience which I have had in natural history, has had the effect of inducing me to believe, that nature does not adopt the last of the above plans; and nothing has tended to produce this belief in a greater degree in my mind, than the knowledge, *First*, That numberless groups of greater or less value, do actually exist in nature, possessing a simi-

* Kirby and Spence, *Introd.* v. 4, p. 358.

larity of structure, and thereby forming themselves into natural groups; and, *Secondly*, That there are numbers of such groups, of varied degrees of rank, which (having regard to their comparative value, as well as to their relative characters,) do exhibit such wide distinctions from the nearest allied groups with which we are acquainted, that I cannot but think that our minds must be influenced by a very considerable degree of fancy, ere we arrive at the conclusion, that such groups are but the effects of *accident*, and that other unknown groups do exist, or have existed in nature, by means of which a gradual and uninterrupted passage can be maintained without the intervention of any hiatus.

In the present day, an object possessing a peculiar formation is, without hesitation, formed into a genus; subsequently other objects are discovered, presenting precisely the same structure, but varying perhaps in size, or merely perhaps in colour. This cannot otherwise be regarded than as establishing the validity of the genus, and the propriety of its formation, and that it must, for the present, at least, be regarded as an insulated group.

And such has been the genus *Scaphura*, established and described by Mr. Kirby in a preceding volume of this work, to whom a single species was only known, subsequently, however, several others have presented themselves, possessing the same singularities of formation, and differing from each other scarcely otherwise than in colour.

With regard to the generic characters of *Scaphura*,* of which Mr. Kirby has given such very accurate and valuable details in the second volume of this Journal, (p. 10.) I may be permitted to add, that the Antennæ, (of which the length is doubtfully mentioned by Mr. K.) are at least twice the length of the body in my specimen of *Sc. Kirbii*; and, which is the only specimen which I have seen possessing perfect Antennæ (this, however, may easily be accounted for, from the very delicate structure of their terminal capillary portion). The incrassation of the basal joints is not, as might perhaps have been anticipated, a sexual character, since the male, of *Sc. Edwardsii*, at least, possesses a similar formation.

* I am inclined to consider this genus as synonymous with that of *Pennicorne*, of which Latreille merely says, (Fam. Nat. p. 413.) "Saturelles du Brésil, à antennes garnies inferieurement de poils."

The anterior tibiæ of both sexes present a curious formation, similar to that described by Messrs. Kirby and Spence, as distinguishing the anterior tibiæ of both sexes of *Gryllus Campestris*, domesticus, &c. "At the base there is an aperture, which passes through the joint, anteriorly it is oval, and posteriorly elliptical, and much larger, and on both sides is closed by a tense membrane."† In *Scaphura* the excavation is oblong ovate, and being larger than in the Crickets, the base of the tibiæ is necessarily dilated, as may be observed in the figure of *Sc. Vigorsii*. This formation also exists, in a modified form, in Mr. Kirby's *Acridæ*, but it is not found in the Locusts. The tegmina of the male are formed precisely similar to those of the female, wanting the talc-like spot at the base, which sexually distinguishes the males of the Grasshoppers with long antennæ.

The abdomen of the female is furnished on each side, above, with an hirsute bristle, broader at the base, and terminating in a point, about a line long, and which appears to be a modification of the long anal setæ of the Crickets. This, however, appears to be wanting in the males. The latter do not exhibit any other material or striking variation in structure from the female, with the exception of the organs of generation. I may also notice, that this genus exhibits an instance of the prevalence of colour existing in certain groups, the species being adorned either with a brick-red or black colour, more or less tinged with blue; but this prevalence of tints is more particularly observed in peculiar parts of some of the Organs; thus the few joints of the antennæ connecting the incrassated with the capillary portion, are in all the species of a fulvous tint, while the incrassated portion is black. The upper portion of the four posterior femora of all the species is also adorned with a triangular pale spot, peculiarly beautiful in *Sc. Kirbii*; and again in two of the species the anterior portion of the tegmina is adorned with several short diagonal pale lines. The colour of the tegmina becomes paler towards their tips, and the anal portion of the wings is paler than the exterior.

The geographical situation of this group appears to be South America, where it also appears to be of rare occurrence.

I may lastly notice, that the species vary but slightly in size.

† Kirby and Spence, *Int.* 3, 674.

Notwithstanding the opinion of so high an authority as Mr. Kirby, with reference to the osculant situation of this group, between the Grasshoppers with long antennæ and the Locusts, I am induced to consider that it possesses very little relationship with the latter. Its general habits and the formation of the tarsi approach the former, but the long antennæ, the formation of the anterior tibiæ, and the anal fillets present affinities with the Crickets. It differs, however, from both these groups in the absence of the talc-like spot at the base of the tegmina of the males, in which respect (alone) it agrees with the Locusts.

Vigorsii. Sp. 1.

Kirby, Zool. Journ., v. 1, 432 and v. 2, 11, pl. 1, f. 1—6.

A specimen (♀) of this insect is now before me, from the cabinet of my friend, T. W. Edwards, Esq., F.L.S., &c., which exhibits the following appearances:—The four posterior femora are adorned, near the centre, with a triangular spot, not extending in the intermediate pair either to their under or inner surface, nor in the posterior (in which the spot is much larger) to the under surface of the femora. The tegmina are red-brown, dark at the base, and gradually growing paler to the tips; * transversely marked on the anterior margin with several short diagonal pale lines. In the coloured figure the palpi of the insect are introduced, but with somewhat the appearance of forming two triangular white lateral lobes to the prothorax, more especially since that part is described as trilobed, the word *postice* introduced into the generic character of the prothorax before the word *trilobus*, would, however, explain the formation.

Mr. Kirby describes his specimen as being 14 lines long, Mr. Edwards' is 11 long, and the expansion of the tegmina is 1 inch and 11 lines.

The following specific character may be inserted, the better to distinguish this species from the two following.

Sc. atra, abdomine cœrulescenti, femoribus 4 posticis maculâ mediâ albidâ, tegminibus fusco rufis, apice pallescentibus, alis fuscis.

* In the figure the tips are incorrectly coloured darker than any other part of the tegmina, which induced me at first to consider Mr. Edwards' specimen as distinct.

Kirbii. Sp. 2. Sc. fulvo-rufa, abdomine basi nigro-cœruleo, in medio fulvo, apice rufo—femoribus 4 posticis maculâ mediâ viridi albidâ, antennarum articulis 3—10 nigris.

Long. Corp. (ovipos. incl.) $10\frac{1}{2}$ lin. Exp. tegm. 1 unc. 10 lin.

Long. antenn. $1\frac{3}{4}$ unc (feré.)

Habitat in Brasiliâ. In Mus. nost.*

Head fulvous red, face with a diamond-shaped black spot, extending from the nose to the insertion of the antennæ, and with a small black spot beneath each eye. Nose and lip paler at the base of each; jaws and palpi fulvous red; antennæ, with the two basal joints, fulvous; the eight following black, the remainder fulvous, terminating in brown.

Prothorax rufous, with an extremely slender, black border, edged with a very delicate yellow line, another very slender yellow central line extending from the base to the tip, above, and edged half its length with a slight black line on each side. Metathorax and mesothorax fusco-rufous.

Legs fulvous red, anterior femora with a slender yellow dash at the base above, intermediate femora with a small yellowish triangular spot before the centre, and the posterior with a beautiful triangular greenish white spot near the centre. Tegmina reddish, paler at the tips and at the anal margins, and having four short diagonal pale lines at the anterior margins. Wings pale fulvous red, darker at the exterior margin.

Abdomen, with the three basal segments blue-black, the third with a rufous transverse line at the base, the three following segments fulvous, each with a very slender black line at the posterior margin; the remaining segments, with the ovipositor, fulvous red.

The medipectus, postpectus, and ventral segments of the abdomen yellow. This, by far the most elegant species, I have named after the celebrated founder of the genus. I was only able to procure a solitary female specimen out of a large collection of Brazilian insects recently arrived in England.

Edwardsii. Sp. 3. Sc. atra, abdomine cœrulescenti, femoribus 4 posticis maculâ mediâ pallidâ, tegminibus atris, alis nigro-fuscis.

* A specimen, apparently of this species, is in the cabinet of Mr. Haworth, but in consequence of not having had an opportunity of examining the individual, I am unable to speak positively upon the subject.

Long. corp. $10\frac{1}{2}$ lin. Exp. tegm. $1\frac{3}{4}$ unc.

Habitat in Brasilia? In Mus. Domâ Edwards—Haworth.

Velvety black, and subpubescent.

Head black, with the face, nose, and upper lip tinged with blue, the terminal joints of the palpi with a pale reddish line beneath, at the base. Eyes grey. Antennæ with the eleven basal joints, and the base of the twelfth black, the tip of the twelfth and the four following fulvous, the remainder brown.

Prothorax black, the deflexed posterior lobes or sides blue-black; legs black, intermediate femora with a small dull pale spot in the centre; posterior femora with a larger and brighter yellowish triangular spot.

Tegmina velvety black.

Wings brownish black, darker at the anterior margin.

Abdomen black, tinged with greenish blue, which is most conspicuous at the apex.

Beneath—the basal portion of the legs and the belly are of a greenish black, tinged with violet.

The above description I have drawn from a male specimen kindly lent to me by Mr. Edwards, with whose name I have inscribed it, as a slight token of regard, and in return for his repeated liberality and kindness to me in my entomological pursuits. He is uncertain of its locality, and he informs me that he possessed a second male specimen, now in the extensive Orthopterous Cabinet of A. H. Haworth, Esq.

This species might, on the first glance, be mistaken for one of the large black-winged exotic species of *Sphex*, which it much resembles in general colour and appearance.

Chelsea, September, 1828.

ART. XXVII. *A Note upon the Impregnation of the Arachnida.* By J. O. WESTWOOD, F.L.S., &c.

It is an observation which cannot be too strongly impressed upon the minds of modern entomologists, who, far too generally consider that their